

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

2021

Use of Social Media for Research and Scholarly Research Outputs of Librarians in Two Universities in Enugu State

Felicia Ugwu

University of Nigeria - Nsukka, felicia.ugwu@unn.edu.ng

Richard Ugwuanyi

University of Nigeria, Nsukka, richard.ugwuanyi@unn.edu.ng

Obiageli Mbajorgu

University of Nigeria, Nsukka, obiageli.mbajorgu@unn.edu.ng

Caroline Nnadi

University of Nigeria, Nsukka, caroline.nnadi@unn.edu.ng

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>



Part of the [Library and Information Science Commons](#)

Ugwu, Felicia; Ugwuanyi, Richard; Mbajorgu, Obiageli; and Nnadi, Caroline, "Use of Social Media for Research and Scholarly Research Outputs of Librarians in Two Universities in Enugu State" (2021). *Library Philosophy and Practice (e-journal)*. 6557.

<https://digitalcommons.unl.edu/libphilprac/6557>

Use of Social Media for Research and Scholarly Research Outputs of Librarians in Two Universities in Enugu State

Introduction

A university is an institution of higher learning which provides the necessary facilities for teaching, learning research and community service and equally having the authority to award academic degrees. Librarians on the other hand are university academics whose mandate is that of acquiring, processing, preservation and dissemination of both electronic and print information resources in the library for staff and students of the university. Through continuous research, librarians update knowledge in order to ensure quality service, teaching and up-to-datedness of students in library trends. Librarians advance in profession and career based on research publications and years in service. Their career progression ranges from Assistant librarians, Librarian 1, Librarian 11, Senior librarian, Principal librarian, Deputy University librarian and University librarian. Kichanova (2012) defined research as the creative work undertaken on a systematic basis in order to increase the stock of knowledge and the application of this knowledge to bring about new innovations. An important underlying objective of research is the sharing and dissemination of the results of these activities, typically through the standards of peer review publications leading to scholarly research. Scholarly research output is defined as research outputs of academics which have passed through a peer review process of experts in a given field and published in the form of books, book chapter, journal article, technical reports e t c. Scholarly research output enhances a scholar's through regular promotion and serve as an important factor in determining his/her position within the hierarchy of his/her discipline. In addition, it earns prestige, recognition, reputation and increases the chances of attracting grants to both the lecturer and the university.

For a scholar to be research productive, there ought to be a demonstration of past and on-going commitment to research which met the minimum threshold of performance prescribed by a given institution. Agoh (2013) observed that Southern Cross University maintains that research productive scholars should meet the requirements for minimum publications of five outputs in five years classified as: research book (count as five outputs), chapter in research (count as one output), referred journal article (count as one output), creative work (count as one output), received reportable external research income of more than \$50,000 in the past five years and published a further three publications in the past five years that satisfy the requirements of the institution.

Today, research is undergoing a paradigm shift from analogue to electronic information search, information sharing and use, data collection and dissemination of research findings thereby enhancing both individual and collaborative research across the globe. Interestingly this new trend of research has been made possible by the increasing information flow and increasing ease of communication facilitated by the use of social media. The Social Media Research Group (2016) defined social media as web-based platforms that enable and facilitate users to generate and share content, allowing subsequent online interactions with other users. These platforms help to enhance research outputs of university lecturers through promoting research collaboration, data collection and analysis, easy information retrieval and dissemination of research findings. Hence the Centre for Information Behavior and the Evaluation of Research (CIBER), (2014) found that researchers use social media tools at all points in their research workflow from identifying research opportunities, finding collaborators and support, identifying literature, collecting and analyzing data through to managing research and disseminating findings. As a result, it has become a new opportunity opened up for extending research frontiers geared

towards promoting and increasing research productivity which is a major factor in the assessment and promotion of university lecturers, global visibility of scholars and ranking of universities. Utilization of social media for academic research is driven by many factors prominent among which are internet connectivity, local area network (LAN), wide area network (WAN), computer (hard and soft ware), databases, laboratory, social media account, smart phones, e-mail, Google e t c.

University academics in Nigeria have been reported to perform below expectation in terms of both quantity and quality of research outputs which adversely affects their promotion and ranking of universities. This low performance has generally been attributed to both personal and organizational and ethical challenges which can be abated with the use of social media. The study therefore investigated the use of social media for research by academics with focus on librarians in two universities in Enugu State, University of Nigeria Nsukka and Enugu State University of Science and Technology.

Statement of the Problem

It has been widely reported that the research outputs of many academic staff in Nigerian universities are below the minimum publication requirements for promotion and or not published in the required international or reputable journals leading to the stagnation of those who failed to meet this demand and low ranking of Nigerian universities. This scenario has necessitated the need for all academics to adopt pro-active measures to increase research outputs in order to always achieve the minimum publication requirements needed for promotion and ranking of universities.

Social media has been widely acknowledged to facilitate scholarly research because of its characteristics including steady availability of resources, ease of use and low cost, wider

connectivity of researchers for sharing of ideas, quick dissemination of research findings without limitations in time, distance and space leading to increased possibilities of research collaborations. Given these benefits of using social media for research, the question then arises whether librarians have embraced the use of social media for research and maximized its increasing availability and accessibility to increase research frontiers for increased research productivity. Inadequate research/research outputs undermine teaching and learning, career advancements of academics, university's ranking, reputation and recognition. It may also affect students' performance when they are not taught based on current trends in the field. Against this backdrop, the study was carried out to ascertain the use of social media for research and research outputs of librarians in Enugu State. There is a dearth of literature on the use of social media for research among librarians in Nigeria, leading to the gap in knowledge that this study intends to fill.

Purpose of the Study

The general purpose of the study is to examine the use of social media for research and scholarly research outputs of librarians in two universities in Enugu State

Specific objectives include to determine the

- 1 Extent of utilization of social media for research by librarians
- 2 Quantity of librarians' research outputs within the last six years
- 3 Extent to which use of social media contributes to scholarly research outputs of librarians
- 4 Challenges associated with the use of social media for research among librarians
- 5 Strategies for enhancing the use of social media for research among librarians

Overview of Research

Research is a systematic investigation or enquiry into a subject; humans, culture and society for the purpose of increasing the stock of knowledge and the use of this knowledge to devise new applications. Research is used to establish or confirm already existing facts, reaffirm the results of previous work, solve new or existing problems, support theorems, or develop new theories, (World Book of Knowledge, 2004). Research may also be an expansion on past work in a given field to test the validity of instruments, procedures, or experiments, or used to replicate elements of prior projects, or the project as a whole. Today, there is increasing diversification in research as a result of its multidisciplinary nature, involving individuals, institutions and countries co-operation and collaboration. This diversification has become pertinent because of the numerous and complex problems associated with human existence. This gave rise to diversification of research in the university in order to maintain quality assurance in teaching, learning and the overall growth and development of the researcher, the university and society at large. Moreover, Lancrin (2006) stated that over the past two decades, research has become more internationalized in many respects thereby resulting in international academic mobility, international collaborations, and international influence of science and funding from abroad, international competition and ranking.

Scholarly research outputs are findings of original investigation presented as published work, non-printed media and intellectual property. According to Tsafe et al. (2016) scholarly research outputs are those research outputs that have passed through the peer review process and accepted for publication books, book chapters, journal articles, practical research records, project reports, inaugural lectures, theses and dissertations, lecture recordings and papers, evaluation reports, workshop reports, working papers, conference papers, conference proceedings, field trip films and records, inventions and community services of academics. Some of these publications

are not only in text form but include speech recordings in cassettes and other digital resources. Academic research outputs can be of immense benefits to the researcher/university academics, the affiliated institution and the society at large. They are a significant factor in the evaluation of university academics for promotion, tenure elongation. It determines the position of any university with regard to World university ranking which promotes reputation and recognition of the university. Decisions on crucial issues are mainly determined by publication rates. For example research productivity evaluation greatly influences tenure decisions and promotions of academic staff leading to salary increments and mobility especially in research oriented institutions (Wadesango, 2014). Moreover, Nwakpa (2015) observed that research publications not only enhances promotion of academic staff but also boosts their credibility, status and also add value to the immediate community and the larger society. Many studies have shown that several academic and research institutions largely determine their reward system and promotions based on quality and quantity of lecturers research outputs. Their publication rates are also paramount in determining the institution's performance which is an important criteria for securing funding from government and foreign agencies.

Social media has been viewed from different conceptual perspectives thereby giving rise to many definitions. The challenge of many definitions results from the variety and evolving stand-alone and built-in social media services. But a common thread running through all the definitions of social media is a blending of information and communications technology and social interactions for the creation of value. The Social Media Research Group (2016) described social media as web-based platforms that enable users to generate and share content, allowing subsequent online interactions with fellow users. Sorokina (2015) categorized social media into eight different types based on the primary capabilities and online services each can be used for.

These include personal networks, interest-based networks, online reviews, e-commerce, social publishing, bookmarking sites, media sharing networks and discussion forums. No social media is completely isolated from others because major networks adjust their functionalities to offer more services to their users. Social networking is a major social media tool employed in establishing and building online relationships with others for social, professional and educational purposes because of the following characteristic features:

- a. Users can interact online ; web 2.0 internet-based applications
- b. Users generate contents by posting comments
- c. Participants create their bio data including real name or a different user name, and provide information about their research and other interests. This profile is created by the user into a standard template which is designed and maintained by the social media organization
- d. Social media promotes online networking and relationships by connecting a user's bio data to other individuals or groups, and even provide platforms that enable the user to locate other users with common interests

On professional basis, users employ social media platforms to network with other professionals, sharing ideas and expertise, updating knowledge and learning how to advance their careers. More specifically, professionals use this medium to promote and publicize services or raise awareness on issues of concern in their profession. Although some social media platforms have been developed specifically for professional uses, majority of the social networks e g face book, twitter, LinkedIn are used for professional purposes to some extent.

Use of social media requires a set of knowledge, skills and attitude that enable interconnectedness and interaction among users referred to as social media literacy. The Centre

for Information Behavior and the Evaluation of Research (CIBER) (2016) observed that researchers use social media tools at every stage in the research work flow, from identifying research opportunities, finding collaborators and supports, identifying current information resources, collecting and analyzing data through to managing research and dissemination of findings.. These explain the large extent that social media has influenced researcher which led to its increasing use in research activities. Beninger et al (2014) remarked that Social Media websites provides rich naturally occurring data and researchers are using such websites to support their work. His views also reveal lessons that researchers and practitioners could apply in their research design, recruitment of participants, collecting or generating of data, data analysis and reporting of results. Compared to traditional media, social media is a more effective means of communication because of its' characteristic flexibility, frequency, usability, immediacy, and permanence. This simply means that it is easy to reach information, easy to share and reach people and follow up comments. Although all social media platforms can be used in one way or the other to conduct research, there are social media platforms that have been created/developed exclusively for research purposes. Predominant among them include: Research gate, LinkedIn, academia.edu and Google scholar.

There are many challenges on the use of social media for research, among these include:

1. **Attitude:** People behave differently online and offline which means that online research may not reflect the true realities.
2. **Exaggerated views:** because of the anonymity that the internet affords, some users over blow their views or comments so that research findings using such sources would lead to inaccurate conclusions about something or someone.

3. ***Impulsive comments*** posted online may result in researchers using a view that does not accurately reflect someone's 'normal' viewpoint but instead only something held for a moment in time. A researcher may therefore adopt unrevised and unreliable postings for research leading to inaccurate results.
4. ***Inaccurate profile:*** some social media users prefer to alter their profiles for security reasons. Using such profile without further validation would lead to inaccurate information about the user. Moreover, the option of preserving anonymity online presents the challenge for researchers to obtain sufficient demographic information of their respondents. This is most important during the recruitment of participants for interview.
5. ***Spamming:*** This is another limitation which does not allow participants to discuss everything on social media. Sometimes, it takes time to get inputs from respondents especially if the researcher is seeking for specific or sensitive information rather than common things.
6. ***Misrepresentation of users:*** This has been reported to be a common practice in Research gate where unsolicited email could automatically be sent to a user.

Difficulty in recruiting participants/respondents during a research process: This applies to those who are not on social media and those whose email addresses are not made available.

Delay in completing questionnaires online: This is reported to be a common practice among respondents on online research mostly because of the problems of inadequate skills on the use of social media, poor internet connectivity, power supply and reluctance of the respondents due to little or no commitment to the researcher. Generally, universities in Nigeria are faced with other categories of challenges which is attributable to the general inadequate and low quality research outputs. Other challenges have been identified by many authors. Thus, Nwakpa (2015) identified

incessant power failure, inadequate funding, increasing cost of research, dilapidated infrastructure, poor research management culture, misplacement of priority and corruption as major challenges that inhibit meaningful research in Nigeria. Based on these challenges, the following strategies have been proffered to promote research using social media:

Mentoring on social media, collaboration on social media, regular training/skills acquisition on the use of social media for research and Motivation. Mentoring is a means of nurturing and growing individuals in an organization motivation through the provision of social tools such as adequate internet connectivity, and electricity supply. Regular training should involve

- Recognition of information required for specific purpose
- Locating the needed information from networks through efficient information retrieval methods, skills and tools
- Selecting and evaluating information gotten from networked information on a given topic
- Manipulating and organizing networked information with other resources to enhance its values.
- Data collection, data analysis and dissemination of research findings on social media as well as archiving and tracking of citations

Methodology

Descriptive survey design was adopted to for the study. Descriptive design is applied to explain the characteristics or position of the respondents on the subject of investigation. McCombes (2019) stated that it is an appropriate choice when the research aim is to identify characteristics, frequencies, current trends and categories, and when little or not much is known about the topic or problem being investigated. Area of study is Enugu State comprising the University of

Nigeria, Nsukka (UNN) and Enugu State University of Science and Technology (ESUT). A pre-survey of librarians in these institutions show that they make use of social media to meet various personal and work demands. Population of the study is made up of all the 97 academic librarians ranging from the ranks of assistant librarians to university librarians in the two universities. They were considered to be in a vantage position to use social media for research because of the current trend of the use of social media for service delivery in the library. Sample for the study include 97 librarians, 59 representing (61%) from the university of Nigeria, Nsukka and 38 (39%) from the Enugu State University of Science and Technology. Instruments for data collection was a structured questionnaire designed on a four-point scale containing five clusters derived from the research questions. The scale includes Strongly Agree/Very High Extent (SA/VHE), Agree/High Extent (A/HE), Disagree/Little Extent (D/LE) and Strongly Disagree/No Extent (SD/NE). The criterion mean was 2.50 which imply that any calculated mean below 2.50 was adjudged a negative score while mean scores above 2.50 was adjudged a positive score. While 97 questionnaire were distributed, 93 (90.2%) were used for analysis. Data was analyzed using frequency tables, mean and percentages.

RESULTS

Research Questions

Table 1: Mean and Standard Deviation of Extent of Use of Social Media for Research by Librarians

	VHE	HE	LE	NE	Mean	Std. Deviation
Twitter	32(34.4%)	41(44.1%)	12(12.9%)	8(8.6%)	2.45	1.04
Blogger	21(22.6%)	17(18.3%)	38 (40.9%)	17(18.3%)	2.10	.98
My space	11(11.8%)	16(17.2%)	37(39.8%)	29(31.2%)	2.12	1.00
You Tube	12(12.9%)	16(17.2%)	36(38.7%)	29(31.2%)	3.03	.93
Live-streaming	34(36.6%)	35(37.6%)	17(18.3%)	7(7.5%)	2.14	.96
Wikis	12(12.9%)	14(15.1%)	42(45.2%)	(26.9%)	2.20	1.05
Wikipedia	15(16.1%)	17(18.3%)	33(35.5%)	28(30.1%)	3.18	.74
Instagram	31(33.3%)	52(55.9%)	6(6.5%)	4(4.3%)	2.52	1.13

Pinterest	29(31.2%)	8(8.6%)	38(40.9%)	18(19.4%)	1.87	.88
Delicious	5(5.4%)	15(16.1%)	36(38.7%)	37(39.8%)	2.18	1.04
Word press	13(14.0%)	21(22.6%)	29(31.2%)	30(32.3%)	2.49	1.20
Flickr	29(31.2%)	14(15.1%)	24(25.8%)	26(28.0%)	2.55	.89
Live Journal	20(21.5%)	16(17.2%)	52(55.9%)	5(5.4%)	2.38	1.11
Skype	23(24.7%)	12(12.9%)	35(37.6%)	23(24.7%)	2.40	1.16
Whatsapp	24(25.8%)	16(17.2%)	26(28.0%)	27(29.0%)	3.16	.98
Four square	45(48.4%)	26(28.0%)	14(15.1%)	8(8.6%)	2.51	1.06
Snap chat	25(26.9%)	12(12.9%)	41(44.1%)	15(16.1%)	2.24	1.13
Friend star	18(19.4%)	18(19.4%)	25(26.9%)	32(34.4%)	2.53	1.28
We chat	33(35.5%)	14(15.1%)	15(16.1%)	31(33.3%)	2.11	1.09
Academia.edu	18(19.4%)	6(6.5%)	37(39.8%)	32(34.4%)	3.16	.89
LinkedIn	38(40.9%)	39(41.9%)	9(9.7%)	7(7.5%)	3.17	.90
Google Scholar	41(44.1%)	33(35.5%)	13(14.0%)	6(6.5%)	2.29	1.26
Research gate	23(24.7%)	22(23.7%)	7(7.5%)	41(44.1%)	2.37	1.29
Google+	28(30.1%)	16(17.2%)	11(11.8%)	38(40.9%)	3.78	.46
Cluster mean					2.57	.65

Table 1 shows that librarians use the following social media platforms to a high extent; YouTube (\bar{x} = 3.03), Wikipedia (\bar{x} =3.18), What Sapp (\bar{x} =3.16), Academia.edu (\bar{x} =3.16), LinkedIn (\bar{x} =3.17), and Google+ (\bar{x} =3.78). Moreover, they use Instagram, Flickr, Four square and Friend star to a large extent while others: Live Journal, Wikis, Twitter, Skype, Blogger, Live-streaming, My space, Word press, Pinterest, We chat, Snap chat, Delicious are used to a low extent. The overall mean shows that Google+ (\bar{x} = 3.78) ranked highest, while Pinterest (\bar{x} =1.87) was ranked lowest with regards to the extent of use of social media for research by librarians.

Research question 2

Table 3: Mean, Standard Deviation & percentage Quantity of Librarians' Research Output 2012-2018

	1-2	3-4	5-6	7-8	9-10	10 & Abov
Book	38 (17.2%)	6(6.5%)	22(23.7%)	28(30.1%)	6(6.5%)	15(16.1%)
Book chapters	20 (21.5%)	8(8.6%)	17(18.3%)	31(33.3%)	8(8.6%)	9(9.7%)
Journal articles	38(40.4%)	13(13.8%)	14(14.9%)	17(18.1%)	5(5.3%)	7(7.4%)
Practical research records	12(12.9%)	11(11.8%)	33(35.5%)	22(23.7%)	9(9.7%)	6(6.5%)
Project reports	21(22.6%)	11(11.8%)	16(17.2%)	26(28.0%)	10(10.8%)	9(9.7%)
Inaugural/other lectures	12(12.9%)	9(9.7%)	14(15.1%)	52(55.9%)	1(1.1%)	5(5.4%)
Evaluation reports	17(18.3%)	15(16.1%)	14(15.1%)	25(26.9%)	8(8.6%)	6(15.1%)
Conference proceedings	15(16.1%)	(12.9%)	(28.0%)	(17.2%)	(19.4%)	6(6.5%)

Workshop reports	21(22.6%)	11(11.8%)	12(12.9%)	18(19.4%)	16(17.2%)	15(16.1%)
Working papers	23(24.7%)	23(24.7%)	13(14.0%)	13(14.0%)	10(10.8%)	11(11.8%)
Theses	12(12.9%)	12(12.9%)	22(23.7%)	17(18.3%)	16(17.2%)	14(15.1%)
Dissertations	26(28.0%)	12(12.9%)	16(17.2%)	17(18.3%)	7(7.5%)	15(16.1%)
Field trip films & records	13(14.0%)	22(23.7%)	21(22.6%)	20(21.5%)	10(10.8%)	7(7.5%)
Inventions and community services	21(22.6%)	11(11.8%)	18(19.4%)	20(21.5%)	8(8.6%)	15(16.1%)

Table 2 shows that 54.2% of librarians did not meet the journal publication requirement of 5 articles in six years while 45.7% of librarians met the requirement.

Research Question 3

Table 4: Mean and Standard Deviation of Extent to which Use of Social Media in the Library Contributes to Scholarly Research Outputs of Social Sciences Lecturers

	VHE	HE	LE	NE	Mean	Std. Deviation
Facilitates information retrieval	34(36.6%)	35(37.6%)	11(11.8%)	13(14.0%)	2.97	1.03
Facilitates data collection using questionnaire	36(38.7%)	33(35.5%)	14(15.1%)	10(10.8%)	3.02	.99
Facilitates data collection using focus group	24(25.8%)	45(48.4%)	15(16.1%)	9(9.7%)	2.90	.90
Ease of finding research collaborators	23(24.7%)	36(38.7%)	10(10.8%)	24(25.8%)	2.62	1.12
Ease of connecting with professionals in the same field	27(29.0%)	32(34.4%)	14(15.1%)	20(21.5%)	2.71	1.11
For discovering new areas of research	36(38.7%)	33(35.5%)	11(11.8%)	13(14.0%)	2.99	1.04
Getting current research modified through inputs from both near & distant professionals	29(31.2%)	29(31.2%)	22(23.7%)	13(14.0%)	2.80	1.04
Quick dissemination of research publications	31(33.3%)	27(29.0%)	20(21.5%)	15(16.1%)	2.80	1.08
Promotes lecturers visibility	33(35.5%)	34(36.6%)	14(15.1%)	12(12.9%)	2.95	1.01
Automatically collates and analyzes data	28(30.1%)	43(46.2%)	14(15.1%)	8(8.6%)	2.98	.90
Facilitates data collection using interview	50(53.8%)	33(35.5%)	7(7.5%)	3(3.2%)	3.40	.77
Ease of tracking ones' publications	30(32.3%)	44(47.3%)	13(14.0%)	6(6.5%)	3.05	.85
Ease of tracking ones' citations	29(31.2%)	41(44.1%)	7(7.5%)	16(17.2%)	2.89	1.04

There is no limitation in time, space and distance for users	41(44.1%)	30(32.3%)	7(7.5%)	15(16.1%)	3.04	1.08
Provides networking opportunities for researchers in different locations	36(38.7%)	23(24.7%)	20(21.5%)	14(15.1%)	2.87	1.10
For quick and easy dissemination of research & professional information	49(52.7%)	26(28.0%)	11(11.8%)	7(7.5%)	3.26	.94
Enables quick and easy access to current trend/information in ones' field	71(76.3%)	14(15.1%)	5(6.5%)	2(2.2%)	3.66	.70
Promotes sharing of ideas and experiences among professionals in different locations	70(75.3%)	15(16.1%)	2(2.2%)	6(6.5%)	3.60	.82
Removes the need for physical presence among collaborators in different locations	32(34.4%)	41(44.1%)	4(4.3%)	16(17.2%)	2.96	1.04
Reduces drastically the cost of research	30(32.3%)	38(40.9%)	14(15.1%)	11(11.8%)	2.94	.98
Respondents on social media can be more open and honest in their responses	26(28.0%)	35(37.6%)	18(19.4%)	14(15.1%)	2.78	1.02
Researchers can easily track relevant articles to read	37(39.8%)	27(29.0%)	12(12.9%)	17(18.3%)	2.90	1.12
Its flexibility is an advantage	30(32.3%)	39(41.9%)	14(15.1%)	10(10.8%)	2.96	.95
It is readily available	25(26.9%)	46(49.5%)	13(14.0%)	9(9.7%)	2.94	.89
Its simplicity is an advantage	34(36.6%)	35(37.6%)	16(17.2%)	8(8.6%)	3.02	.94
There is ease of communication	36(38.7%)	35(37.6%)	11(11.8%)	11(11.8%)	3.03	.99
Promotes institutional research collaboration	29(31.2%)	30(32.3%)	21(22.6%)	13(14.0%)	2.81	1.03
Promotes country-wise research collaboration	33(35.5%)	38(40.9%)	15(16.1%)	7(7.5%)	3.04	.91
Promotes regional research collaboration	30(32.3%)	44(47.3%)	9(9.7%)	10(10.8%)	3.01	.93
Cluster mean					3.00	.80

Table 4 shows that the mean ratings on the contributions of the various social media platforms for research is high as indicated by all the mean ratings being above 2.5. The overall mean scores imply that all the social media platforms makes high contributions to research. Enables quick to current information (\bar{x} =3.66) makes the highest contribution while ease of finding research collaborators (\bar{x} =2.62) makes the lowest contribution.

Research Question 4: Mean and Standard Deviation on the Challenges of Using of Social media for Research by Librarians

	SA	A	D	SD	Mean	Std. Deviation
General inadequate research skills	33(35.5%)	35(37.6%)	16(17.2%)	9(9.7%)	2.99	.96
Lack of awareness and skills on the use of social media for research	32(34.4%)	45(48.4%)	12(12.9%)	4(4.3%)	3.13	.80
Inadequate training on the use of social media for academic research	40(43.0%)	31(33.3%)	11(11.8%)	11(11.8%)	3.08	1.01
Poor/no mentoring activities using social media	63(67.7%)	17(18.3%)	2(2.2%)	11(11.8%)	3.42	1.00
Lack of motivation/encouragement towards the use of social media	29(31.2%)	28(30.1%)	12(12.9%)	24(25.8%)	2.67	1.17
Lack of collaboration among academics on social media	31(33.3%)	37(39.8%)	12(12.9%)	13(14.0%)	2.92	1.01
Too much work load	65(69.9%)	21(22.6%)	1(1.1%)	6(6.5%)	3.56	.81
Inadequate social media tools such as internet connectivity	32(34.4%)	35(37.6%)	17(18.3%)	9(9.7%)	2.97	.96
Withdrawal attitude towards social media use	44(47.3%)	31(33.3%)	9(9.7%)	9(9.7%)	3.18	.97
Inadequate power supply	49(52.7%)	35(37.6%)	3(3.2%)	6(6.5%)	3.37	.83
Lack of computers	51(54.8%)	33(35.5%)	6(6.5%)	3(3.2%)	3.42	.76
Poor knowledge of free online databases	43(46.2%)	23(24.7%)	19(20.4%)	8(8.6%)	3.09	1.01
Respondents delay in responding to questionnaire on social media	37(39.8%)	37(39.8%)	13(14.0%)	6(6.5%)	3.13	.89

The reliability of social media contents is not guaranteed	41(44.1%)	38(40.9%)	7(7.5%)	7(7.5%)	3.22	.88
Difficulty in recruiting respondents during data collection	53(57.0%)	34(36.6%)	2(2.2%)	4(4.3%)	3.46	.75
Too much trashy information slows down information search	47(50.5%)	35(37.6%)	3(3.2%)	8(8.6%)	3.30	.89
Problem of informed consent	39(41.9%)	38(40.9%)	8(8.6%)	8(8.6%)	3.16	.91
Users are less likely to be sincere on social media	40(43.0%)	38(40.9%)	9(9.7%)	6(6.5%)	3.20	.87
Problem of anonymity in sensitive matters	25(26.9%)	38(40.9%)	18(19.4%)	12(12.9%)	2.82	.98
Problem of impulsive comments	24(25.8%)	24(25.8%)	26(28.0%)	19(20.4%)	2.57	1.09
Provision of inaccurate profile by some users	19(20.4%)	24(25.8%)	22(23.7%)	28(30.1%)	2.37	1.12
Misrepresentation of users information	25(26.9%)	29(31.2%)	16(17.2%)	23(24.7%)	2.60	1.13
Problem of exaggerated views	27(29.0%)	45(48.4%)	10(10.8%)	11(11.8%)	2.95	.94
Cluster mean				93	3.07	.

Table 4 shows overwhelming agreement to the challenges of using social media for research by all means scores above 2.5. The highest challenges include too much workload on librarians followed by the difficulty in recruiting respondents during data collection.

Research question 5: Mean and Standard Deviation on the Strategies for enhancing the Use of Social Media for Research by Librarians

	SA	A	D	SD	N	Mean	Std. Deviation
Regular training/skills acquisition on the use of social media for research	42(45.2%)	39(41.9%)	10(10.8%)	2(2.2%)	93	2.96	.99
Structured mentoring activities using social media	33(35.5%)	33(35.5%)	17(18.3%)	10(10.8%)	93	2.91	.96
Research collaboration among academics on social media	31(33.3%)	31(33.3%)	23(24.7%)	8(8.6%)	93	3.22	.88
Research funding by universities in Nigeria	41(44.1%)	39(40.9%)	7(7.5%)	7(7.5%)	93	2.87	.91
Availability of grants	25(26.9%)	39(41.9%)	21(22.6%)	8(8.6%)	93	2.92	.96
Participation at conferences, seminars through social media	28(30.1%)	41(44.1%)	13(14.0%)	11(11.8%)	93	2.99	.93

Motivation/encouragement on the use of social media	31(33.3%)	38(40.9%)	16(17.2%)	8(8.6%)	93	3.42	.71
Provision of social media tools such as adequate internet connectivity	49(52.7%)	36(38.7%)	6(6.5%)	22(2.2%)	93	3.60	.75
Provision of adequate power supply	66(71.0%)	22(23.7%)	0(0%)	5(5.4%)	93	2.58	1.05
Provision of accurate profile on social media to ease recruitment of research respondents	(2122.6%)	30(32.3%)	24(25.8%)	18(19.4%)	93	3.05	.98
Anonymity on social media should be avoided	36(38.7%)	37(39.8%)	9(9.7%)	11(11.8%)	93	3.54	.67
Users/researchers on social media should be honest in their comments	57(61.3%)	31(33.3%)	3(3.2%)	2(2.2%)	93	2.98	1.08
Respondents should avoid delay in responding to the questionnaire on social media e t c.	37(39.8%)	33(35.5%)	7(7.5%)	16(17.2%)	93	3.43	.88
Researchers should be able to synthesize and evaluate social media information before use	56(60.2%)	29(31.2%)	0(0%)	8(8.6%)	93	3.56	.74
Researchers on social media should avoid exaggerated views and impulsive comments	63(67.7%)	22(23.7%)	5(5.4%)	3(3.2%)	93	3.16	.
Cluster mean					93	2.96	.99

Table 5 also shows total agreement to the strategies for promoting the use of social media for research by librarians with the highest mean score being the provision of adequate internet connectivity.

Discussion of Findings

Extent of Use of Social Media for Research by Librarians

An examination of the mean scores on the above subject shows that out of the twenty five social media platforms under study, nine including three of the platforms exclusively developed for research purposes are used to a high extent. These include Google+, Academia.edu, Wikipedia, What Sapp, LinkedIn and U-tube. The rest of the platforms are used to a little extent.

This finding supports the observation of Nowsheeba and Madhusudhan (2018) who explored the usage of academic social networking sites among scholars including Post-graduate students and revealed that research scholars use academic social networking sites to a large extent with Research gate and Academia mostly used for purposes of connecting to research scholars, sharing of ideas and following other research activities.

Quantity of Librarians' Research Output within the Last Six Years

The fact that the number of librarians who met the minimum threshold of performance of five outputs within five years is lower than those who did not is an indication that majority of librarians are running short of promotion requirements. In support of this finding, Ocholla, Ocholla and Onyancha (2013) revealed that over the last ten years, librarians have published quite below expectations was partly attributed to the fact that the staff list of librarians did not appear on the website of many universities. Moreover, not all librarians (e.g. university librarians, directors/executive directors) publications appeared in the databases because most of them preferred publishing individually which predominantly were journal articles, short articles, followed by conference proceedings. This exemplifies the need for academics generally to publish on academic social media platforms and institutions websites to achieve quick dissemination of research findings for better visibility and to improve author citations and publication impact.

Extent to which Use of Social Media Contributes to Scholarly Research Outputs of Librarians

Findings have shown that the contributions of social media to scholarly research output is overwhelming with the least item in the research questions (ease of finding research collaborators) having a mean score of 2.6 This further highlights the benefits of using social

media in the research process which supports the claim by the Centre for Information Behavior and the Evaluation of Research (CIBER), (2014) that academics use social media tools all through the research process, starting from identifying research opportunities, finding collaborators and support, finding resources, collecting and analyzing data as well as managing research and disseminating findings.

Challenges of using social media for research by social science lecturers

Findings indicate strong agreement on all the challenges of using social media for research by librarians with all the items having mean scores quite above 2.5. Although Idiegbeyan-ose, Ifijeh, Adeniran, Fagbohun, and Esse (2014) in their study indicated lack of skill as a major challenge, inadequate power supply, inadequate social media tools such as internet connectivity, difficulty in recruiting participants during data collection and too much work load have the highest mean scores in the present study. Shilton & Sayles (2016) discovered that researchers experienced diverse set of ethical challenges that predominates the existing research ethics such as informed consent, anonymity of information and difficulty in recruiting participants during data collection. These can be ameliorated by the emerging ethical norms which include improving transparency with research communities, removing unreliable profiles before sharing results and engaging colleagues in deliberative ethics processes.

Strategies for enhancing the use of social media for academic research

Many strategies have already been suggested following the challenges of using social media for academic research. Most important is the provision of internet connectivity, regular power supply and regular training on the use of social media for research. The second idea is to select the social media platforms more suitable than others depending on the researcher's field,

experience, and free time. Others include mentoring, collaboration, regular training, and motivation.

Implications of the Study

Evidence from the study shows that social media has been widely acknowledged as a good means of promoting research and publications. This stems from the potential of social media as a huge source of current information, means of exchanging ideas and encouraging research collaboration. However, high extent of use of some social media platforms for research did not quite reflect in the research outputs of respondents. For example, 57.2% of librarians did not meet the minimum journal article publication requirement of five outputs in six years. Many challenges ranging from ethical, organizational and personal have been attributed to this low performance in research. The university should therefore adopt more effective ways of supporting and encouraging the use of social media for research.

Recommendations

Based on the findings and implications of the study, the following recommendations are made:

1. The university should encourage the use of social media for research by creating the enabling environment through the provision of adequate power supply, internet connectivity and strong policies.
2. The library should enhance its contribution to the use of social media for research by organizing regular training/skill for librarians and other academic staff

The training should focus more on the use of social media for research collaboration, data collection and analysis.

3. Librarians should always archive their publications in the university website to attract citations.
4. Library and Information Science educators can integrate the use of social media for research in the LIS curriculum.

Conclusion

Social media has been widely acclaimed as a veritable tool for promoting research output. The present study reveals that social media has been used to a high extent by librarians in Enugu State. However, the high extent of use did not reflect in the quantity of research output achieved over the past six years since the percentage of those who did not meet the minimum publication requirement of journals articles is over 54%. Some factors have been attributed to low research performance such as personal characteristics including research active and non-research active academics as well as organizational and ethical challenges. These can be ameliorated by the collaborative efforts of the university, the library and the academics in different faculties. Moreover, research collaboration on social media between and among librarians in different and the same institutions as widely adopted in developed countries is hereby suggested for librarians in Nigeria as a way of increasing research frontiers for increased research output.

REFERENCES

Beninger, K. et al. (2014). Research using social media; User's views. NatCen- social research that works for society. From: www.natcen.ac.uk/media/.../p0639-research-using-social-media-report-final-190214.

- Borgman, C.L. & Furner, J. (2001). Scholarly communication and bibliometrics. *Annual Review of Information Science and Technology*, 36, 3-72. From: <https://onlinelibrary.wiley.com/doi/abs/10.1002/aris.1440360102>
- Bosch, A. (2011). Research output and research management. *ActaCommercii; Independent Research Journal in the Management Sciences*, 11 (2). Department of Industrial Psychology and People Management, University of Johannesburg, South Africa. Available at: <http://www.actacommercii.co.za/index.php/acta/article/view/148>
- Centre for Information Behavior and the Evaluation of Research (CIBER) (2010). *Social media and research workflow*. London, England: CIBER. From: <http://www.ucl.ac.uk/infostudies/research/ciber/social-media-report.pdf>
- De Griis Richard (2019). Using social media to effectively promote your research. <https://www.enago.com/academy/using-social-media-to-effectively-promote-your-research/>
- The Group of Eight (2013). The role and importance of research intensive universities in the contemporary world. A discussion paper. From: <https://go8.edu.au/sites/default/files/docs/role-importanceofresearchunis.pdf>
- Idiegbeyan-ose, J. et al. (2016). Library professionals and social network sites: Use, relevance and challenges from university libraries in Ogun State, Nigeria. *DESIDOC Journal of Library & Information Technology*, 36 (6), 417-423. Doi: 10.14429/djlit.36.6.10406
- Kichanova, V. (2012). The Role of social media in research and development. HAAGA-HELIA University of Applied Sciences, Available at: https://theseus.fi/bitstream/handle/10024/49218/the_role_of_social_media_in_research_and_development.pdf?sequence=1.
- Lancrin, S.V. (2006). What is changing in academic research? Trends and future scenarios. *European Journal of Education*, 41 (2), 169-202. From: <https://www.oecd.org/edu/ceri/37481256pdf>
- Mba, D. (2019). Nigerian universities are performing poorly, what can be done about it? The conversation-academic rigour journalistic flair available at
- National Universities Commission (NUC) (2005). Quality assurance of publications of Nigerian academics: How do Nigerian local journals measure with regard to international standards? *Monday memo*, 4 (24), June 13.
- Nowsheeba, A.A. & Madhusudhan, M. (2018). Academic social networking sites for researchers in Central Universities of Delhi: A study of research gate and academia. *Global*

Knowledge, Memory and Communication, 67 (1/2). Available at:
<https://www.emeraldinsight.com/doi/abs/10.1108/GKMC-01-2017-0004>

- Nwakpa, P. (2015). Research in tertiary institutions in Nigeria: Issues, challenges and prospects: Implications for educational managers. *IOSR Journal of Humanities and Social Science*, 20 (6), 45- 49. ISSN- 2279-0837.
- Ocholla, D. Ocholla, L. & Onyancha, O.B. (2013). Insight into research publication output of academic librarians in southern African public universities from 2002 to 2011. *African Journal of Library, Archival & Information Science*, 23 (1), 5-22.
- Onuka, A.O.U. & Adesoye, O. (2015). Challenges of and possible solutions to educational research and evaluation in Nigeria. *African Higher Education Research Online (AHERO)*. Academic publication in the institute of education, University of Ibadan. ISSN: 1116-0381. Available at:
http://ahero.uwc.ac.za/index.php?module=cshe&action=viewtitle&id=cshe_534
- Sabo, B. (2005). Universities, research and development in Nigeria: Time for a paradigmatic shift. Paper prepared for 11th General Assembly of CODESRIA, on Rethinking African Development. Beyond impasse: Towards alternatives, Maputo, Mozambique. Available at: http://www.codesria.org/Links/conferences/general_assembly11/papers/bako.pdf.
- Shilton, K. & Sayles, S. (2016). We aren't all going to be on the same page about ethics: Ethical practices and challenges in research on digital and social media. 49th Hawaii International Conference. From: <https://ieeexplore.ieee.org/abstract/document/7427422>
- Social Media Research Group (2016). *Using social media for social research: An introduction*. Social Science in Government. Available at:
https://assets.publishing.service.gov.uk/.../GSR_Social_Media_Research_Guidance
- Sorokina, O. (2015). 8 Types of social media and how each can benefit your business. Available at <https://blog.hootsuite.com/types-of-social-media/>
- Tsafe, G.A., Basaka, B.A. and Mohammed, C.U. (2016), Scholarly publications of librarians in universities in Nigeria: 2000 - 2012 – Abibliometric analysis. *Library Philosophy and Practice* (e-journal), available at: <http://digitalcommons.unl.edu/libphilprac/1394> (accessed August, 2018).
- Wadesango, N. (2014). Publish or perish: Impediments to research output and publications. *International Journal of Education Science*, 6 (1), 57 – 63. Retrieved from krepublishers.com/02.../IJES-06-1-057-14-128-Wadesango-N-Tt.pdf